CITY OF SOUTH BEND INFORMATION TECHNOLOGIES STRATEGIC PLAN

2014-2016

Defining the Information Technology future for the City of South Bend

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1- DEFINITIONS

1- Definitions

Governance Group - The Governance Group will consist of a representative sample of the major departments within the city: Mayor's Office, Public Works, Public Safety, Administration and Finance, Community Investment, Parks and Information Technologies. This group will meet regularly to direct the actions outlined in this plan and recommend policies, procedures and standards for all information technology efforts. Additionally, this group will be responsible for prioritizing all information technology projects based on the administration's goals and efforts.

Best-of-Breed - Established industry-leading devices, software or systems, in which a vendor has established a sizable market share due to superior technology or customer acceptance (such as Microsoft Active Directory for directory services and Cisco networking infrastructure devices).

Mission Critical Systems - Systems that are essential for the City of South Bend to function effectively. Public safety systems, such as police and fire dispatch and water works distribution, as well as critical city services systems, such as the 311 line and telephone service, must be restored immediately in case of disaster.

Ideal State - the optimum level of technology provided by December 31st, 2016, as dictated within this document.

Information Technologies Service Management Catalog (ITSM) - A catalog of all technology services offered by an IT department. ITSM Catalogs include the procedures for requesting services and list department protocols, the service level agreement and any costs associated with the service. The catalog is usually in the form of a piece of software but can also be published on a website/intranet or a paper manual.

Service Level Agreement (SLA) – Documents that define the level of service and response times for different service requests. For example, if a mission critical system is down, there may be a SLA that IT will respond to the request in 15 minutes. A non-mission critical system may have an SLA of 2 hours to respond. SLAs will transparently let employees know when their request will be processed and resolved.

Good Government – to provide timely, effective and efficient government services to the Citizens of South Bend; one of Mayor Pete Buttigieg's tenants for providing the best services to citizens in the most efficient and timely manner possible.

System - a software package or technology, such as South Bend's ERP and GIS systems.

1- DEFINITIONS

Data Management – How the City of South Bend captures, stores, shares, disseminates, replicates and reports the data collected. Prior to this document, the City has not focused on collecting and managing data.

Best Practices – the best way to consistently and effectively execute a task. Often times, industries or organizations develop their own best practices.

Change Management Procedure – A process to minimize service downtime by ensuring that requests for changes are recorded and then evaluated, authorized, prioritized, planned, tested, implemented, documented and reviewed in a controlled and consistent manner.

Open Data Platform – a publicly accessible portal that centralizes data collected by disparate city departments. This allows departments to access and analyze data more effectively, generates data-driven solutions, increases transparency and allows private developers to develop innovative ways of handling municipal problems.

Hardware – physical machines (computers, servers, printers, peripherals).

Software – programs that run on hardware (Microsoft Office).

Naviline ERP System/Platform – Short for Enterprise Resource Planning, ERP Systems use an integrated suite of software modules that support the basic internal business processes of a company or organization. It provides an integrated, real-time view of its core business processes.

SCADA – Supervisory Control and Data Acquisition (SCADA) is the centralized computer controlled industrial control system that monitors and controls all water and wastewater processes. SCADA systems often consist of Remote terminal units (RTUs), Programmable logic controllers (PLCs), telemetry systems that connect RTUs and PLCs with the control center, a Human Machine Interface (HMI) and Historian software which accumulates time-stamped data used to populate trends.

GIS – Geographic Information Systems (GIS) integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced information. GIS systems allow users to view, understand, question, interpret, and visualize data in many ways that reveal relationships, patterns, and trends in the form of maps, globes, reports, and charts. A GIS system helps answer questions and solve problems by looking at data in a way that is quickly understood and easily shared.

2 - Executive Summary

THE NEED FOR A STRATEGIC PLAN

The Strategic Plan for the City of South Bend's Information Technology Department aims to effectively communicate the City's technology direction, priorities and policies. As the city continues to improve, a strategy for the development of technology will lessen duplicated efforts and improve efficiency. Furthermore, this plan demonstrates the Information Technology Department's ongoing effort to implement strategies that further the goals of Mayor Pete Buttigieg's administration.

PROCESS

A committee was formed and met several times in April and May of 2013. The committee consisted of representatives from all major departments within the city government along with Mike Bieganski, retired CTO for Bosch, and Dan Rousseve, Vice President of Technology at Teacher's Credit Union. These working sessions helped define the role of technology efforts within the city's overall vision. This document is largely the outcome of those discussions. As a result, this document will serve as a blueprint for the Information Technology Department's direction through December 31st, 2016.

TECHNOLOGY VISION

The Plan's vision can be grouped into four categories: information technology services, strategic partnerships, governmental systems integration and community engagement. For a visual graphic of these four categories, refer to page 7.

1. Developing strong information technology services within the entire organization is critical to support the business functions of the City of South Bend.
    - The establishment of governance will ensure technology efforts are prioritized and aligned with the city's business needs.
    - An emphasis on technology training for information technologies staff and the general workforce is required. This investment will easily be repaid as technology is more fully utilized.
    - The development of formalized standards, procedures and policies will allow employees to understand Information Technologies' role within the city.
    - The establishment of a tactical path will enable the department to focus on prioritized items, helping the city to realize the strategic target.
    - Provide mission critical systems effectively and securely.

2 - EXECUTIVE SUMMARY

2. Strategic partnerships with vendors allow IT staff to focus on prioritized projects, while vendors and partners deliver other necessary services.

   - Cloud-based Services (SaaS), such as Office 365, and Platform as a Service (PaaS), similar to the City's implementation of Cisco IP Telephony Services, are constantly becoming more attractive and will play an expanding role in our strategy.
   - The establishment and maintenance of vendor relationships is needed as technology continues to change at a rapid rate.
   - When a solution does not exist commercially, custom application development can help bridge gaps to fill needs.

3. Interdepartmental and intergovernmental system integration is needed to provide more accessible data.

   - Remove duplicated data collection.
   - Continue to develop our Open Data Platform to transparently share data across departmental lines.
   - Share data symbiotically with St. Joseph County to eliminate duplication

4. Engage the community by looking for opportunities in the local school systems, universities, private companies and nonprofit organizations. These community partnerships can help accomplish tasks and deliver value-added services.

STRATEGY

The steps to realize the ideal state will be accomplished by implementing a formal Governance Group, strengthening organizational aptitude, establishing policies, procedures and standards, developing an effective data management strategy and centralizing resources. For a flow chart of data management, refer to page 17.

- Governance – A Governance Group will be created with the responsibility of aligning technology resources with the city's business values. The Governance Group will meet regularly to prioritize projects, recommend policies and review progress of this plan. A Chief Information Officer (CIO) position will be created to help guide the Governance Group and assist in the execution of this plan.

2 - EXECUTIVE SUMMARY

- Strengthen Organizational aptitude – A concerted effort to build organizational aptitude with a foundation of technical knowledge among all of South Bend's employees must be undertaken. Advanced technical training for the Information Technologies Department staff as well as a clear understanding of software and basic technology tools (i.e., Microsoft Office, ArcGIS, etc.) by the general workforce is an essential element of improving organizational aptitude.

- Policies, Procedures and Standards – Formalizing Information Technologies' policies, procedures and standards are critical. This effort will cumulate with the creation of an Information Technologies Service Management (ITSM) Catalog, which will allow users to identify available information technology services and streamline the process of requesting those services. This effort will provide Service Level Agreements for the delivery of service requests.

- Data Management – An effective data management strategy is required to define how we capture, store, publish, aggregate, analyze and consume data. Such a strategy will increase transparency and accessibility for South Bend citizens. This strategy will be a holistic approach to all data including public safety, SCADA and GIS.

- Centralization of Resources – Many applications and hardware touch multiple departments, such as database administration and design, networking infrastructure and backups. These activities should be centralized to eliminate duplication and more efficiently utilize resources.

3 - Vision

To build and maintain a technology platform that allows employees at all levels to quickly, proactively and efficiently identify and resolve problems by using intelligent, data-driven decision-making principles, process improvement and technology. The administration's major platforms of good government, making the basics easy and promoting local job growth will be the driving force behind project prioritization and technology decision-making.

ADDRESS PROBLEMS EFFECTIVELY & IMPROVE RESPONSE TO CITIZENS

In the constant pursuit of more accurate and timely responses to citizens' needs, technology can lead the way. As South Bend strives to be the "smartest city in the Rustbelt," the city must continue to respond to current problems and proactively address looming challenges. Each decision requires internal discourse on how it affects the community as well as South Bend's continuing efforts to entice investment.

PLANNING HORIZON

With the target date of December 31st, 2016, this document sets forth the plan to coincide with the final budget of Mayor Pete Buttigieg's first term. It is expected that a new plan will be created following this Strategic Plan's conclusion.

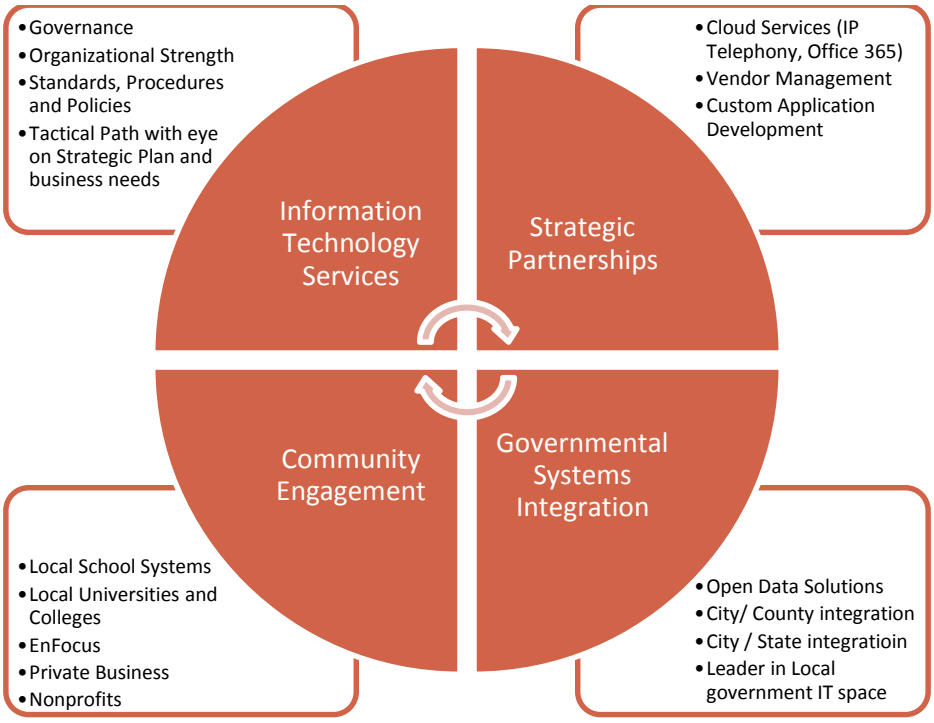
COURSE CORRECTIONS TO THE STRATEGIC PLAN

The Strategic Plan must remain flexible and in line with the administration's goals. Any correction or modification to the Strategic Plan will occur within the Governance group's normal meetings. The Governance group should review the progress made on this plan and make recommendations on project prioritization and resource allocation yearly, if not more frequently.

TECHNOLOGY VISION

The Technology Vision for the City of South Bend can be grouped into four categories: information technology services, strategic partnerships, governmental systems integration and community engagement.

3 - VISION



DEVELOP STRONG INFORMATION TECHNOLOGY SERVICES

Developing strong Information Technology services within the entire organization is critical to support the business functions of the City of South Bend.

Capacity

As the City's use of technology continues to expand, network infrastructure and systems must have the capacity to accommodate current systems as well as the flexibility and excess capacity to shoulder future needs.

Reporting

Departments must be able to run reports and process other paperwork without the intervention of the Information Technologies Department. Departmental ownership of simple processes, such as reporting, will free up Information Technologies staff to accomplish more.

Transparent and Open Data

As the City continues to increase transparency and provide accessible information to the public, the publishing of data will be done publicly as a default. Clearly, some sensitive data must be kept internal,

but data collection must be done with the mindset of providing public information. This approach is furthered by the development of South Bend's Open Data Platform, which will serve as a central location for both public and internal data.

The Open Data Platform will enable departments to access aggregated data, allowing better analysis of problems and data-based solutions. Data will be removed from internal silos, which makes the data widely accessible and eliminates duplicated, inefficient collections by disparate departments. The platform will allow proactive decision-making based on concrete evidence. Furthermore, vendors and private designers can easily access the data, opening the door for innovative solution-making by outside actors.

Investing in Current Systems

As new technologies arise and the Information Technologies Department purchases new systems, current systems must not be forgotten. Systems already in place require constant upkeep and upgrades, and will fail to perform as expected without continued investment.

Centralization of Information Technology Resources

Currently, many disparate offices throughout the city have differing levels of Information Technology functions, many of which are somewhat independent of the central Information Technologies Department. At times, this creates duplicated efforts and wasted resources. Better collaboration is needed and more control of operations must be allocated to central Information Technologies. All major expenditures and IT decisions should be run through established governance procedures.

Data Management

To better collect, store, manage and analyze data, a data management strategy is needed. With a centralized storage plan, single point of data entry and strong data architecture, the City of South Bend could better capture and analyze data.

Build Organizational Aptitude

In order to build organizational aptitude and better utilize technology, The City of South Bend, as an organization, must cultivate a culture that views technology as a tool, rather than an obstacle. Technology has the power to improve processes, create data-based decision-making and improve services to citizens. To do so, we must invest in human capital. After determining where skills are lacking, training must not only be completed, but taken seriously. When training sessions are not attended fully or done haphazardly, the IT department spends valuable resources answering questions and troubleshooting. For employees to utilize these tools and not overuse the IT department, training

is paramount. At the same time, the Information Technologies Department will continue to provide city employees with the proper tools to do their jobs effectively.

Access to Systems

As technology continues to develop, access to information and data remotely will enable city employees in the field to better do their jobs. From police officers accessing information at a traffic stop to Code Enforcement geocoding the location of abandoned houses, greater access to systems will increase efficiency. The Information Technologies Department must continue to implement innovative technologies to make mobile access to data secure, intuitive and efficient.

Leverage Technology

Technology should improve the City of South Bend's regular business efficiency, enabling employees to do their jobs easier and more effectively. To do so, the city must leverage technology to fulfill basic needs in the most efficient way. From investing in training to devising better protocols, greater levels of efficiency are clearly obtainable. Lastly, the establishment of a tactical plan that prioritizes projects will allow resources to tackle the most pressing challenges.

STRATEGIC PARTNERSHIPS

With current strategic partnerships, vendors offer needed services that cannot be provided efficiently by core Information Technologies staff. These relationships are essential to the functioning of the department and the city as a whole. Today, Cloud-based Software as a Service (SaaS) solutions, such as Office 365 and Platform as a Service (PaaS), will play an expanded role in South Bend's technology functions. Custom application development by private developers will also play an essential role, often bridging gaps and filling needs. Establishing new partnerships and maintaining current ones will allow the city to adapt quickly to its constantly changing needs and technology's new innovations.

External Partnerships and Community Engagement

The community should be seen as one of the city's biggest resources. Members of our community have the capacity to help solve a myriad of problems, and community engagement is the only way to utilize them.

Many resources in our community remain untapped. Our community is full of innovative people, some of whom are already using data to help the city solve problems and improve quality of life. With a set of common goals and a focus on community outreach, these resources can be more fully utilized. Notre Dame's investment of $100M a year towards research can be leveraged to analyze some of South Bend's problems, such as dealing with vacant and abandoned homes, enticing businesses to invest in

3 - VISION

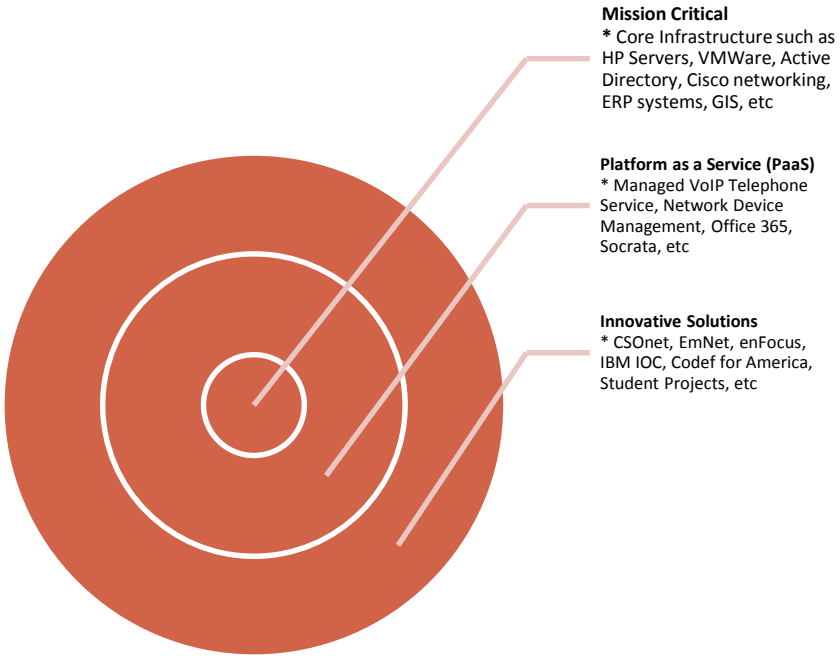
South Bend and spurring economic growth. Many startups have already helped the city, such as EmNet. With many colleges nearby, the expertise of students can also be leveraged through internship programs. Joining with the South Bend Community School Corporation, the City could potentially receive reduced prices on technology purchases as well.

SYSTEMS INTEGRATION AND CENTRALIZATION

Currently, many systems duplicate efforts and fail to share information. Interdepartmental sharing, as well as sharing symbiotically with St. Joseph County, can provide data in a more timely and effective manner. Some systems simply need to be integrated with others, while others require consolidation. In the end, these efforts will reduce duplication and free up resources.

TECHNOLOGY AS THE SOLUTION

Technology has the capacity to fix problems, save the city money and create more effective government. Locally, the use of EmNet to handle sewage flow has saved the city $100M alone. From advanced technologies such as EmNet, to simpler technologies sold by vendors, South Bend should continue to look for technological solutions.

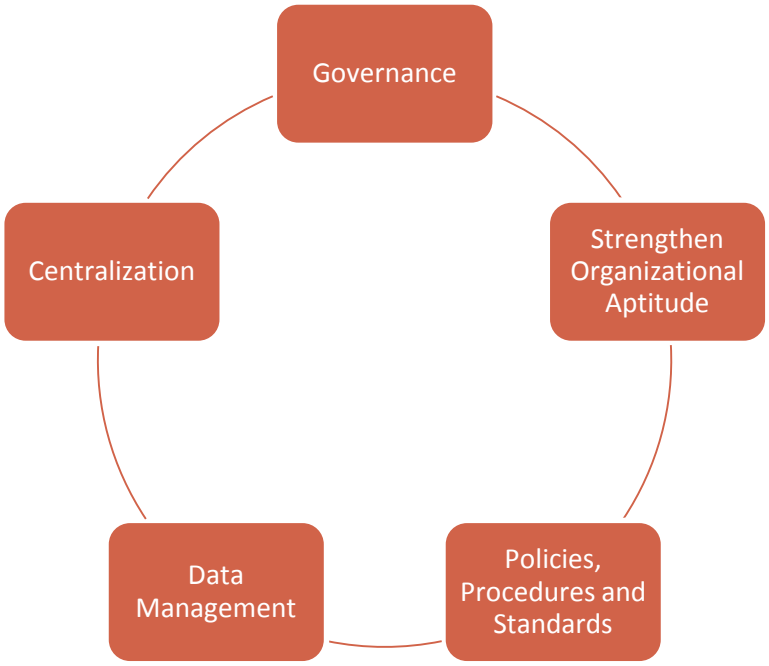


3 - VISION

When it comes to mission critical systems, technology services will be delivered using best-in-breed solutions. With continued investment in industry-accepted best-in-class hardware and software, mission critical systems will be supported with a proficient staff and reliable infrastructure. Strategic partnerships and innovative solution providers will also play a significant role, keeping South Bend on the cutting edge of technology. Some strategic partners will even provide services as a commodity, such as VoIP Telephony services. As recent history has shown with projects like CSOnet and enFocus, partnerships often create innovative solutions to some of South Bend's most specific and troubling problems. The utility these partnerships provide to the city cannot be understated.

4 – Strategy

At the broadest level, the Strategic Plan can be grouped into 5 focus areas: governance; strengthening our organizational aptitude; establishing policies, procedures and standards; data management; and centralization.



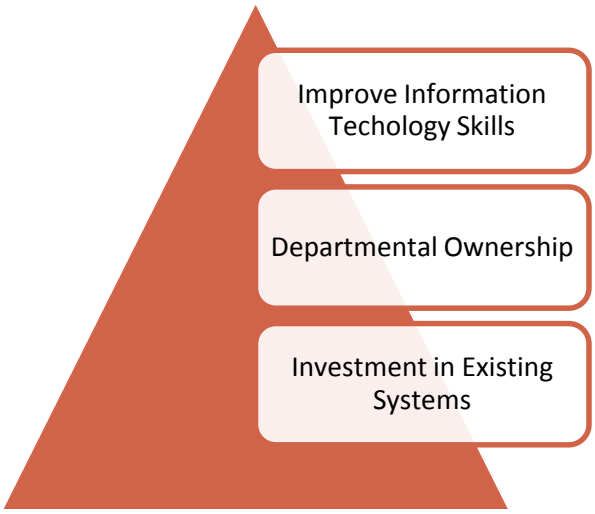
GOVERNANCE

A Governance Group will be created to ensure that the Information Technology Department's resources and effort are allocated in a manner that furthers the city's goals. This group will be responsible for the implementation of this plan and any mid-course corrections. The Governance Group will meet regularly to prioritize projects, recommend policies and standards, and review progress of this plan.

STRENGTHEN ORGANIZATIONAL APTITUDE

A concerted effort to build a foundation of technical knowledge must be undertaken. Sadly, technical knowledge is lacking throughout our organization. Without departmental ownership of systems and technical proficiency, this plan cannot be realized. All departments, including the Information Technologies Department, must increase training efforts and boost understanding of systems. Lastly, as new technologies garner attention and resources, existing systems must be preserved through

continued investment. Outlined below are the three steps needed to increase city employee technical understanding. A technology assessment of each employee and department should be completed to benchmark current skills. This information will help prioritize and target areas needed for improvement.



1. Both skills and staffing levels must be increased within the Information Technology Department to support current and future development. More staff would enable the department to pursue more developmental projects while continuing to maintain current technologies. Additional training among staff, especially in Naviline will increase the IT department's capacity to execute the Strategic Plan.

2. Departmental ownership of software, processes and training is critical. Too often departments rely on Information Technologies to troubleshoot, pulling staff away from important projects. To increase the capacity of Information Technologies, departments must learn to thoroughly document, manage and assess their processes. As new software packages are implemented or technology processes are altered to increase the organizations capabilities and efficiency, departments must attend these crucial training sessions.

3. A better understanding of current systems will add productivity as well. Unfortunately, many systems have yet to be fully utilized. For example, Naviline, Laserfiche, eForms Software, Office 365 and Outlook require further training to increase productivity and efficiency.

POLICIES, PROCEDURES AND STANDARDS

The Information Technologies Department along with the Governance Group will recommend the establishment of formal policies, procedures and standards that make processes repeatable and efficient. Ensuring that policies, procedures and standards are maintained allows our organization to establish and adhere to best practices.

Policies

Policies will be will be developed and maintained by the recommendation of the Governance Group with assistance from the Information Technologies, Legal and Human Resources Departments. Following the formal adoption, the policies will be published on the City's website at http://southbendin.gov/government/content/policies. Any modification of the Plan will follow the same procedures.

Below is a comprehensive list of necessary policies. Current policies must be reviewed as quickly as possible. Currently, many of these polices are maintained by the Human Resources Department or are published on the City's website. In addition, this list may be amended by the Governance Group, Information Technologies, Legal and Human Resources as needed.

- Computer Hardware Information Technologies Policy 5.1
- Computer Software Information Technologies Policy 5.2
- IT Purchasing Information Technologies Policy 5.3
- Email Policy Information Technologies Policy 5.4
- Internet Usage – Acceptable Use Information Technologies Policy 5.5
- Remote Access Usage Information Technologies Policy 5.6
- Wireless Usage Information Technologies Policy 5.7
- Bring Your Own Device (BYOD) *To be developed*
- Social Media *To be developed*
- Policy on city equipment issued to employees *To be developed*
- Acceptable Usage Policy *To be developed*
- Change Management *To be developed*
- Website Content Management *To be developed*

4 – STRATEGY

- Open Data *To be developed*
- Privacy Policy (HIPPA, Crime Victim, SSN) *To be developed*
- Software Compatibility *To be developed*
- Purchasing Review Policy *To be developed*
- Peripherals *To be developed*
  - Printers, video, energy, facilities management, etc.
- IT Remote Control Policy *To be developed*
- Backup Policy *To be developed*
- Security Policies *To be developed*
- Purge Policy *To be developed*
- Employee Status Change (new/terminated) *To be developed*
- Obsolete Equipment Disposal *To be developed*
- Workstation Replacement Policy *To be developed*
- Training and On-boarding Policy *To be developed*
- File Structure and Naming Convention Policy *To be developed*
- Policy Enforcement Policy *To be developed*

Procedures

Creating effective procedures will establish best practices and repeatability. Documenting and formalizing best practices should be done wherever possible to perpetuate accepted processes.

1. Establish an Information Technology Service Management (ITSM) Catalog, which identifies current Information Technology Services. The catalog will explain the process of requesting services and publicize service level agreements.

2. Develop a business continuity and disaster recovery procedure. Mission critical systems must be identified and protected. In the event of a disaster, a plan must be in place to recover these essential systems in a timely manner and restore services. Systems that are defined as non-mission critical will also have an appropriate protection and recovery strategy.

3. Creation of a procedure for effective implementation of new systems. To enable systems to cohesively become a part of the organization's everyday processes, a procedure must be created.

4 – STRATEGY

Standards

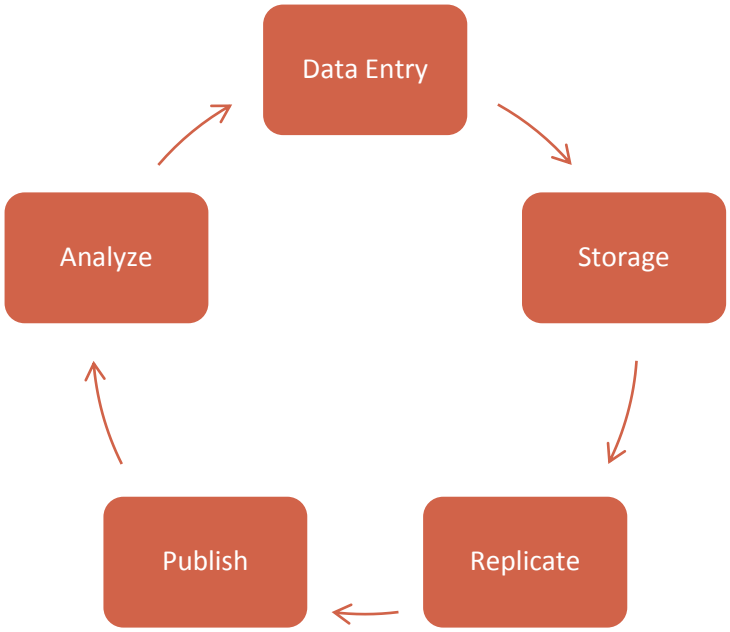
With the approval of the Governance Group, the Information Technologies Department will maintain a portfolio of standards to ensure systems co-exist and function correctly. Below is a sample list of processes and technologies that require standards, which will be published at a later date. The Governance Group reserves the right to amend this list at any time.

- Database standards
- Workstation specifications for desktops, laptops and tablet computers
- Workstation privileges
- Server specifications – including physical, virtual and cloud computing
- Infrastructure – including routers, switches, wireless and firewall standards
- Virtualization Platform
- Mission critical systems standards – best-in-breed systems are required to protect citizens and provide effective, efficient services (911, ERP, VMware, SQL Database, Dual band radios, NetApp storage, Cisco infrastructure, etc.)
    - Expertise in partnerships
    - Uptime and reliability
- Non-Mission critical systems – allows innovative solutions at potentially lower cost of operation
- Peripherals, such as printers and copiers

4 – STRATEGY

DATA MANAGEMENT

As the city continues to pursue data-based solutions, a data management strategy is needed.



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1. Effectively capturing data is the first step. Data that is not collected cannot be reported, so an emphasis on complete data capture is crucial.

2. Once data is identified it must be stored. In order to store data efficiently and avoid duplication, a storage strategy will be created.

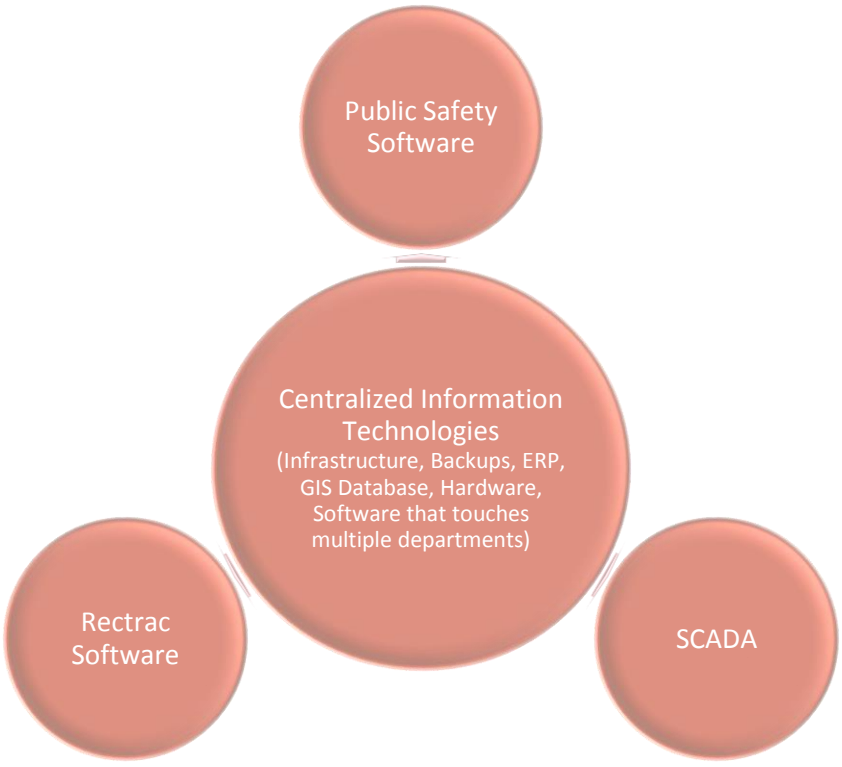
3. With many systems that hold different yet related sets of data, replication is often necessary. Replicating data into and out of disparate systems will create consistency among data sources allowing for better analysis.

4. Publishing data in human and machine readable formats will allow city departments to share frequently requested data. When made widely accessible and consumable, data will enable vendors to build applications, departments to create innovative, data-based solutions and citizens to access data. Increased transparency and interdepartmental sharing is an essential part of good, accessible government.

5. Improved analysis of data will enable the city to pin point problems using concrete data. Better analysis of data will help create better, data-driven solutions to pressing issues in South Bend.

CENTRALIZATION STRATEGY

Currently, many processes are duplicated by different departments, creating inefficiencies and wasted resources. To eliminate these duplications, many functions must be centralized. After defining responsibilities with service level agreements, departments will be able to better manage their technologies and contact the appropriate group or department for assistance.



5 – Tactical Path

GOVERNANCE COMMITTEE

The Governance Committee will prioritize projects and recommend the creation of policies, procedures and standards. With a focus on realizing the goals of this plan, the governance group will align technology development with the goals of the administration.

Creation of Policies, Procedures and Standards

The creation, review and modification of policies, procedures and standards must be completed as quickly as possible.

Portfolio Management

As soon as possible the Governance Group will convene a meeting to prioritize projects. All departments with technology needs will be invited to this meeting. An independent and experienced 3rd party will moderate this discussion.

DEVELOP ORGANIZATIONAL APTITUDE

Employee understanding of technology as it relates to their job functions must be improved. This plan cannot be realized without training and development across the entire organization, not just within the Information Technology Department. To achieve the goals set forth in this plan, assessments will be done to determine current skills and develop training plans.

Information Technologies Training

Within the Information Technologies Department, further training and skill development is constantly needed. Currently, the department primarily needs a better understanding of the Naviline ERP System.

Creation of Departmental Technology Officers

In an effort to create departmental ownership and bolster organizational aptitude, each department will be assigned a Technology Officer. Technology Officers will report to the Director of Information Technologies. Examples of responsibilities include Tier 1 help desk support, on-board training, and administration of employee training plans.

PROJECTS

The list of projects below is a representative example of projects that must be completed. Actual identification of projects will be a shared responsibility for all departments including Information

Technologies. To prevent biased prioritization, the City will bring in a third party arbiter with technological knowledge to help assess the City's priorities.

Open Data Initiative

The development on an Open Data Portal began in 2013 in an effort to provide data to Code for America and IBM. After researching various means to provide accessible data, an open data platform fully met the needs of the previously mentioned vendors and additionally provided greater governmental transparency to citizens. The Open Data Platform allows the City to publish, consume and analyze data like never before, even providing the capabilities to make visualizations, maps and charts that allow for better analysis. With the platform in place, data can be shared publicly and privately. The public can view and download information freely. Private developers can access data to create new, innovative applications. At the same time, this project presents challenges in determining what data must remain internal, ultimately requiring the creation of data collection and dissemination protocols.

Upgrade or Replace Current ERP System

The current Naviline ERP System must be upgraded or replaced. The importance of this system as well as the challenges of replacing it cannot be understated. The City of South Bend must fully commit to this project. This project will require the most proficient staff from many key departments to be fully immersed on this project for many months or years to help complete the replacement. Although replacing the ERP system is a giant and risky endeavor, the outcome will provide additional capabilities that the city desperately needs.

In order to replace the ERP system, a needs assessment must first be conducted to analyze which system will more closely meet our current and future needs. At this juncture, the next ERP System must offer more robust user reporting, mobile access, an SQL database backend, and a more intuitive user interface. Information Technologies has included funding for the needs assessment in the 2014 proposed budget. Implementation of the new system would begin in early 2015 with a 2-4 year implementation schedule depending on many factors including the vendor and product selected.

Business Continuity and Disaster Recovery Plan

The creation of a Business Continuity and Disaster Recovery Plan is needed to ensure mission critical systems are protected at the highest reasonable level and that they can be restored as quickly as possible in the event of a disaster. Mission critical systems must be identified. After combining many essential technologies and locations to better protect them, the Information Technologies Department will also develop a recovery plan that outlines processes to restore mission critical systems in the event of a disaster.

5 – TACTICAL PATH

Establish Integration to St. Joseph County for critical data

The City of South Bend and St. Joseph County duplicate many processes, creating inefficiencies and wasted resources. Establishing integration with St. Joseph County will help several departments be more efficient. Ideally, the City of South Bend and St. Joseph County can integrate data collection and freely share data. This will enable the City to access warrant information, property ownership records, assessed valuations, zoning information, commissioner sales, tax sale information and other data.

PSAP Consolidation

Indiana law requires the consolidation of Public Safety Answering Point (PSAP) centers to no more than two locations per county by the end of 2014. Currently St. Joseph County, Mishawaka, Clay Fire and South Bend all have PSAP locations, necessitating immediate consolidation.

Mobile Field Connectivity

Increasingly, departments need to access internal resources while in the field. The city must continue to secure private data while making mobile access intuitive and efficient. Resolving this challenge will increase efficiencies in all departments where considerable time is spent in the field.

Vacant and Abandoned Housing

Data collection of vacant and abandoned houses has yet to be formalized. Continuing to develop tools and procedures for an effective Vacant and Abandoned Housing Strategy is necessary to meet the Mayor's goal of dealing with 1,000 houses in 1,000 days.

Land Management Cleanup, Policies and Procedures

The city currently lacks an effective land management strategy. A successful plan will create protocols to geocode addresses, remove duplicate entries and generate more accurate information. Technology also can be used to provide landowner information and create a field for the state tax ID. Additionally, the amount of incorrect information can be reduced by ensuring an address validation feature is enabled, and the number of personnel with access to enter data is controlled. An authoritative database would allow the City to more easily share data between systems such as Naviline and GIS, improving reporting and route optimization.

"Future-proof" the Networking Infrastructure

As the City constantly demands more of its network, the Information Technologies Department must assess the current capacity of networking infrastructure and plan for the future. An examination of the network must confirm the infrastructure has the capacity to fulfill current needs but is also robust and flexible enough to deliver services in the future. Some of these steps include closing fiber loops for redundancy, improving the backbone of the network to 10GB to assure available bandwidth, increasing

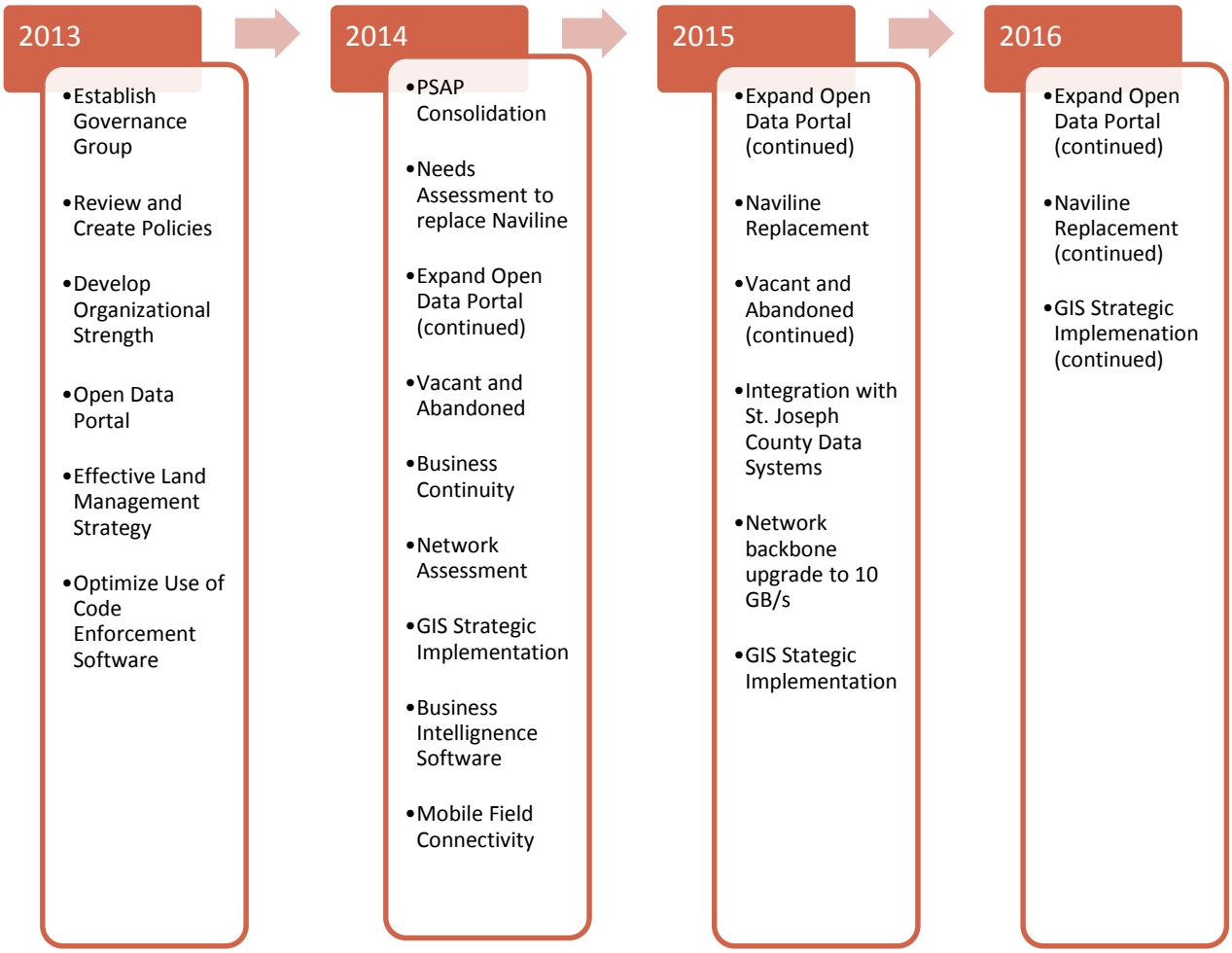
internet connection speeds, reviewing the network hardware and infrastructure for capacity, and completing a security audit. This examination will ensure the network and systems can withstand the burden of current needs and remain flexible enough to accommodate tomorrow's demands.

GIS Strategic Implementation

An enterprise level GIS Strategic Implementation will address many issues including governance, database design, data integrity, data maintenance, software, training and infrastructure. Strategically investing in our current GIS environment will give decision makers access to more complete data.

5 – TACTICAL PATH

POTENTIAL TACTICAL PATH

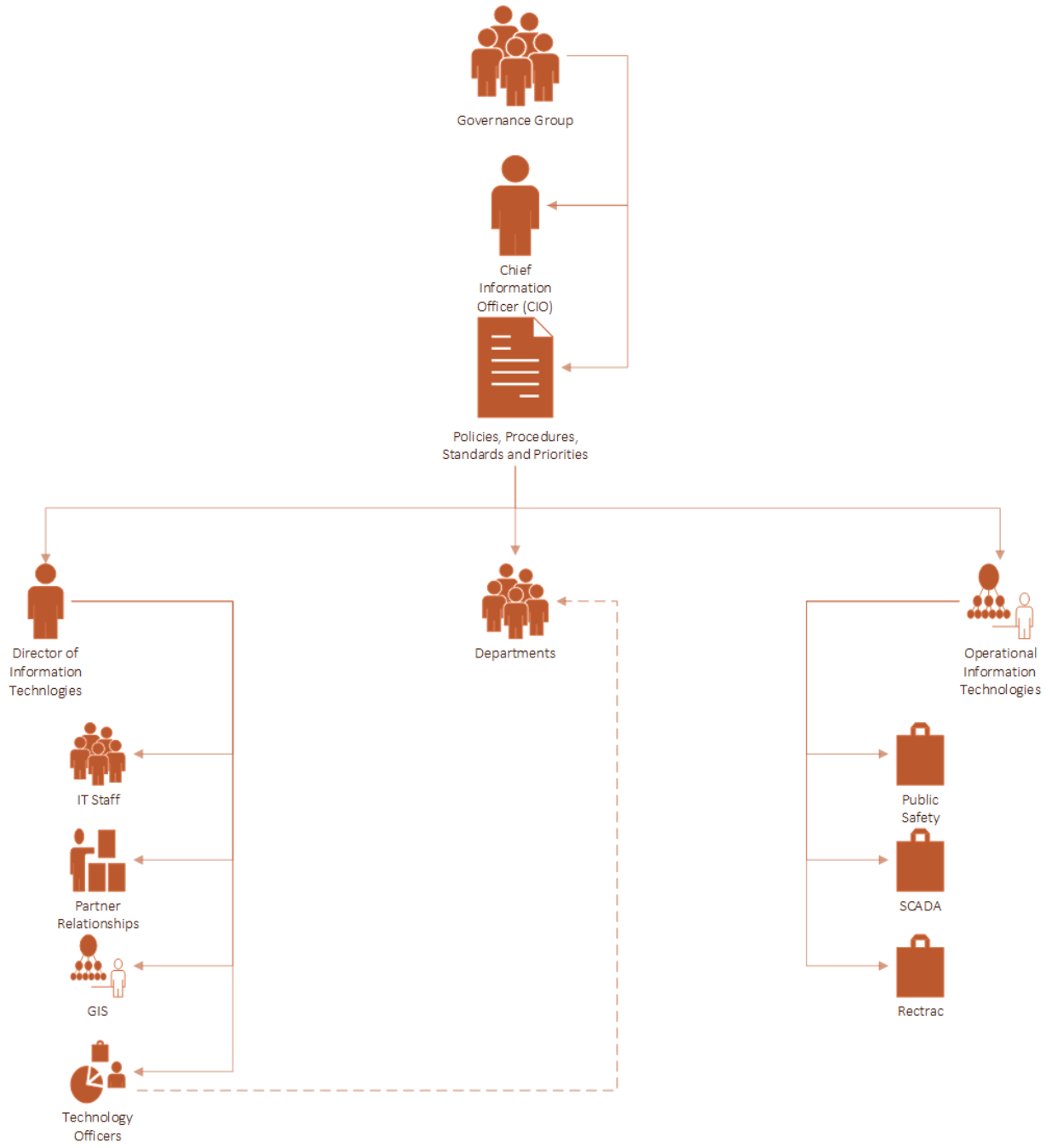


The realization of the ideal state will take multiple years, and clearly there will be new goals and challenges that arise. The Governance Group will be responsible for prioritizing projects, assigning resources and monitoring the progress of this plan.

6 – Organizational Aptitude

A strong organizational aptitude is needed to execute this plan. In addition to strengthening Information Technologies, all departments must work under the same policies, procedures and standards. The chart on the next page illustrates the organization and leadership needed to execute this plan.

6 – ORGANIZATIONAL APTITUDE



6 – ORGANIZATIONAL APTITUDE

GOVERNANCE GROUP

The Governance Committee will meet regularly to discuss project prioritization, further develop policies, procedures and standards, and alter the strategic plan when necessary. Prioritization of projects will be determined by several factors including impact, efficiencies, return on investment, risk mitigation, internal resources and the availability of outside expertise. The Governance Group bears the responsibility of achieving the goals of the Strategic Plan.

The Governance Group will allocate resources and budgets for projects, and should require performance measures to determine project success.

An initial project portfolio management discussion involving every department and moderated by a disinterested third party should be held as soon as possible. In an effort to remove bias, the disinterested third party will help prioritize the most important projects.

CHIEF INFORMATION OFFICER (CIO)

The Chief Information Officer's (CIO) role is to provide vision and leadership for developing and implementing information technology initiatives. Under the framework of the Governance Group, the Chief Information Officer directs the planning and implementation of enterprise IT systems in support of business operations. This individual will be responsible for all aspects of the organization's information technology and systems and should be viewed as a key member of the administration’s staff.

IT DEPARTMENT OPERATIONS

The Information Technologies Department is headed by the Director of Information Technologies, Keith Crain. The department’s responsibilities are outlined below.

Director of Information Technologies

- Vendor Management
- Policy and Procedure Enforcement
- Allocation of central Information Technologies staff and Technology Officers

Centralized Information Technologies Staff

- Tier 2 and above Help Desk Support
- IP Phones
- Infrastructure
- Backups

- ERP
- Database
- Hardware
- Software that touches multiple departments (Microsoft Office, ArcGIS, etc.)
- Computer deployments
- GIS
- Add/Moves/Changes
- Technology procurement

Technology Officers

- Tier 1 Help Desk Support
- Administers training for new and existing employees

SPECIALIZED SOFTWARE MANAGEMENT

Some software packages are unique and critical to the operation of certain departments. The central Information Technologies Department staff is not proficient with these software packages and they will continue to be supported by trained staff at the departmental level. Examples of these specialized software packages include SCADA software used by the Public Works Department, Public Safety software such as ADSI used by the Police and Fire Departments, and Rectrac software used by the Parks Department.

7 - Next Steps

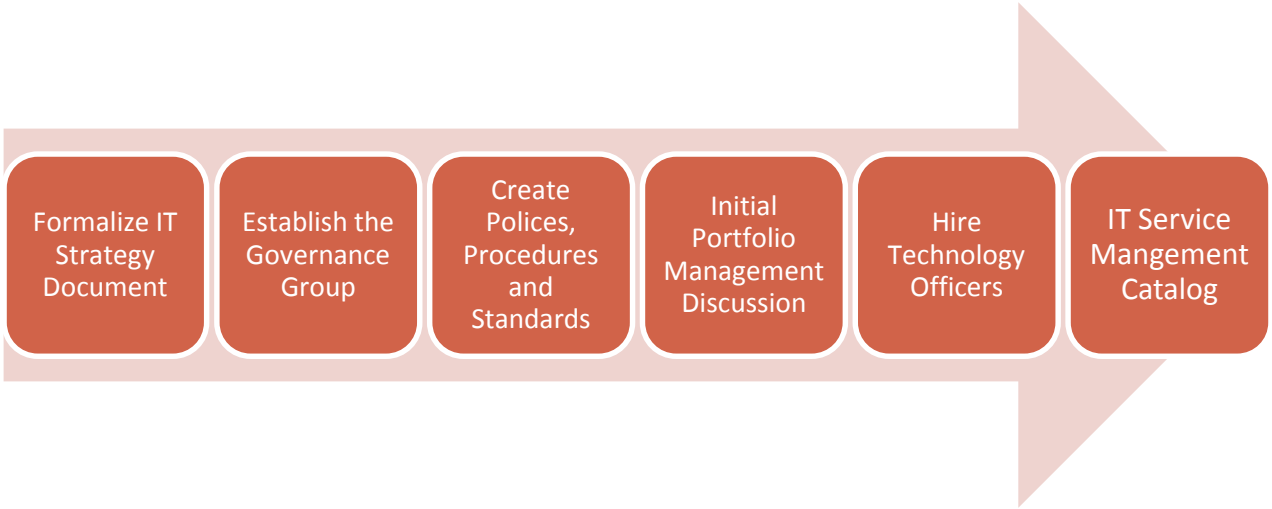
FORMALLY ADOPT THE IT STRATEGY DOCUMENT

- Final approval of the plan by Mayor Pete Buttigieg.
- Present the final plan to the Department Heads at the February 10, 2014 Mayor's Department Head meeting.

BEGIN EXECUTION OF THE STRATEGIC PLAN

- Establish the Governance Group – Department Heads will be appointed to the Governance Group by Mayor Pete Buttigieg.
- Establish Policies and Standards – The Governance Group will be responsible for recommending the creation of the Policies, Procedures and Standards with input from Human Resources and Legal. A list of suggested policies is in the Technical Strategy Section.
- Initial Portfolio Management Discussion – Hire 3rd party Moderator to bring all departments together to present technology needs. Required for the Governance Group to begin prioritization of projects.
- Appoint Technology Officers – identify and hire candidates for each department and begin the process of defining responsibilities, orientation and training the employee to serve in this new role.

  Begin the creation of the Information Technology Service Management (ITSM) Catalog – The creation of an Information Technologies Service Management Catalog will formalize procedures and establish Service Level Agreements for the delivery of all technology services.



8 - Special Thanks

The Information Technologies Department would like to thank all members of the IT Strategy team, who put in a great deal of effort and research to make this Strategic Plan possible. The thorough examination of our current technology allowed us to realize our strengths and weaknesses as an organization, and identify concrete goals to work towards in the future. Team members contributed valuable time and knowledge to create this document, which will ultimately improve efficiency, transparency and services to the citizens of South Bend

The City of South Bend would also like to extend a special thanks to Mike Beiganski and Dan Rousseve, who volunteered their time and expertise. Their skills and experience were extremely helpful in the creation of this plan, through many phases of this project. From the overall strategy to the specific details needed to achieve the goals set forth, they guided the IT Strategy Team throughout the entire process.

9 - IT Strategy Team

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Appendix A – Current IT Staffing

CENTRAL INFORMATION TECHNOLOGIES STAFF

- Keith Crain, Director of Information Technologies
- Bob Allen, System Specialist IV – specializing in ERP Administration
- Brent Cummins, Systems Specialist IV – specializing in Website Administration
- Shawn Delahanty, Systems Specialist IV – specializing in Cisco Telephony Administration and Project Management / Implementation Services
- Sue Gerlach, Systems Specialist III – specializing in ERP Administration, End-User Training, Desktop Management and Help Desk
- Mark Pyclik, Systems Specialist II – specializing in Help Desk and Backup Administration
- Jim Schrader, Systems Specialist I – specializing in Help Desk

ERP ADMINISTRATION

- Linda Paar, Systems Specialist III – specializing in ERP Administration
- Brian Wood, Utilities Systems Specialist – specializing in utility Billing Administration

PUBLIC SAFETY ADMINISTRATION

- Diane Villa, Systems Specialist III – specializing in Public Safety Software
- Sal Parisi, Systems Specialist III – specializing in Public Safety Administration
- Ann Orr, Systems Specialist I – specializing in Reporting & Analysis
- Chad Goben, 1st Class Patrolman – specializing in Electronic Forensics
- Joe Wine, Department Systems Specialist – specializing in Fire Reporting, Ambulance Billing and Project Implementation

GEOGRAPHICAL INFORMATION SYSTEMS

- Deb Kuehn, GIS Manager – specializing in ArcGIS Administration
- Jeff Maroon, Senior GIS Specialist – specializing in ArcGIS

APPENDIX A – CURRENT IT STAFFING

SCADA ADMINISTRATION

- Brent Hussung, Director of SCADA Administration
- Al Imus, Assistant Director of Treatment – specializing in SCADA

DEPARTMENTALLY SPECIFIC APPLICATIONS

- Mike Kouroubetes, Departmental Systems Specialist – specializing in RecTrac Administration
- Jim Gross, Part Time PC Support – specializing in RecTrac

Appendix B - Staffing and Skill Requirements

As stated previously, to achieve the goals outlined in this document a large number of skill sets are required. Some skills can be provided with partner relationships or through a temporary employee, while others will require significant training. Technology skills that create a competitive advantage should remain on staff whenever possible. Employees can take on multiple roles to fulfill the needs of the environment. Below is a partial list of skills needed to support the current environment.

DATA ADMINISTRATION

- Systems Integration (along with Network Administrator)
- SQL, MySQL, Access, DB2 including data replication from disparate SQL data sets
- Database design
- Database analysis
- Data extraction
- Advanced Reporting
- Socrata
- Analysis
- Catalog of Service (along with other members)
- Land Management Administration
- Data Backup Administration
- SQL and MySQL Scripting
- SQL Maintenance and Health Administration
- Access to Public Records Act Requests

ERP ADMINISTRATION

- Configuration
- Training
- Communication of package's capabilities
- Excellent understanding of how department functions
- Catalog of Service (along with other members)
- 3rd Party Integration for enhanced capabilities
- Advanced Reporting

APPENDIX B - STAFFING AND SKILL REQUIREMENTS

NETWORK ADMINISTRATION

- Systems Integration (along with Data Administrator)
- Architecture
- Active Directory Administration
- Cisco Device Administration
- NetApp Storage Administration
- Equalogic Storage Administration
- VMware Administration
- SmartNET Maintenance
- Contract Terms
  - T1 Lines
  - Internet Service
- Catalog of Service (along with other members)
- Security Administration
  - ScanSafe Administration
  - Firewall Administration
    - Cisco ASA and Sonic Wall
  - Intrusion Prevention Administration
- Wireless Infrastructure
- VPN Administration
- Web Content Filtering and Reporting
- VB Scripting
- Centreon Administration
- Nagios Administration

DESKTOP ADMINISTRATION

- Computer refresh
- Application Management and Deployment
- Systems Center Administration
- Group Policy Administration
- Patch Management
- Catalog of Service (along with other members)

APPENDIX B - STAFFING AND SKILL REQUIREMENTS

- Printer distribution and maintenance
- Office 365 Administration
  - Outlook
  - SharePoint
- Visual Basic Scripting
- Software Compliance
- Software Version Control
- Virus and Malware Prevention

WEB SERVICES ADMINSTRATION

- Websites Administration
- Webforms
- Integration of Socrata Visualizations
- Integration of GIS Visualizations
- Integration of Crime Reports
- Drupal
- HTML
- Streaming Video

PROJECT MANAGEMENT AND IMPLEMENTATION SERVICES

- New systems/technology implementation
- Will coordinate effort among many individuals
- Catalog of Service (along with other members)

TRAINING

- New User Training
- New Applications
- Legacy Systems (Naviline)
- Efficiencies (MS Office suite, etc.)

BUSINESS ANALYSIS

- Process Improvement

APPENDIX B - STAFFING AND SKILL REQUIREMENTS

GEOGRAPHIC INFORMATION SYSTEMS (GIS)

- Catalog of Service (along with other members)
- Maintenance of layers with the Enterprise GIS Model
- Consumption of Centralized Land Management data

HELP DESK

- Tier 1 & 2 Problem Resolution
- Application Support
- Hardware Support
- Moves / Adds / Changes
- Break / Fix
- Computer Deployments

DEPARTMENTAL EXPERTS

- Knowledge of specific software packages
- Knowledge of business needs of their department

SPECIALIZED CONSULTING AND TEMPORARY HELP

- Cisco Telephony Solutions (for example)
- Student projects
- Internships

GRANT WRITING

- Opportunities exist for funding projects (especially in the Public Safety space)

CISCO TELEPHONY ADMINISTRATION

- Call Manager Administration
- Unity Connection Administration
- UCCX Administration

SCADA ADMINISTRATION

- DF1 Communications

APPENDIX B - STAFFING AND SKILL REQUIREMENTS

- Rockwell Automation RSView32 HMI (will be replaced by FactoryTalk View SE next year)
- Rockwell Automation FactoryTalk Historian
- Rockwell Automation FactoryTalk VantagePoint
- Rockwell Automation FactoryTalk Linx Enterprise
- Rockwell Automation FactoryTalk RSLinx Classic
- PHP
- Excel Scripting
- Data Highway + Networking
- SLC PLC Programming, Logical
- Logix PLC Programming, Logical
- IBM Maximo Administration
- Slackware/Ubuntu Linux

PUBLIC SAFETY ADMINISTRATION

- CyberScience Business Intelligence Software
- CAD/911 Database updates & Administration
- Video access requests
- Security Administration for PD application software
- In car Laptop Administration
- In care video Administration
- PD Software Administration
- MiFi Setup
- NetMotion & Two-factor Authentication
- RFIDEAS Administration
- ADSI DataForce Software
- ADSI CAD Software
- ADSi MDT Software
- ADSi Mapping/AVL Software
- ADSi False Alarm Billing
- ADSi Tow Rotation System
- ADSi Interfaces (Motorola, NCIC/IDACS, County Fire/EMS)
- ADSi M.A.R.S system (Messaging system)

APPENDIX B - STAFFING AND SKILL REQUIREMENTS

- Aries Crash Software
- eTicket Software
- Omniform
- Laserfiche Archiving
- C.A.D.I.S. (Criminal History software)
- National Crime Information Center (NCIC)
- Indiana Data and Communication System (IDACS)
- IA PRO
- POWER DMS (Document management software)
- Attendance software
- Video manager
- A.F.I.S Fingerprinting Administration
- Centreon monitoring software
- Pelco interview room software
- Panasonic MVR management (Video equipment)
- In house and downtown camera management
- Motorola software programming
- EMM mobile device management
- Verizon MiFi
- Application Development
  - IOS
  - Android
  - Web based applications
  - Visual Basic
- Action Training Software
- Doron (Vehicle Simulator)
- Fire Manager (Employee Time Management)
- FormSite
- Trane Tracer Summit
- IVANS (EMS Billing for Medicare)
- Star Web (EMS Billing for Memorial Hospital)
- TriTech Software Systems (EMS Patient Billing)

- ESO Patient Care Software (ePCR)

PARKS DEPARTMENT SPECIALIZED SOFTWARE

- Rectrac Suite
- Adobe Suite
- Daktronics Sign Control
- Fore Reservations
- Pro Link
- Ticket Force
- Toro Irrigation
- Villing CMS

APPLICATION PROGRAMMING AND SYSTEMS INTEGRATION

- Application Development
  - Client / Server applications
  - Mobile applications
- Integration between disparate systems

Appendix C – Potential Project Descriptions

Below is a brief description of potential projects mentioned on page 23. The Governance Group will determine the actual projects and prioritization.

OPEN DATA PORTAL

In 2013 the City of South Bend became the first city in the state of Indiana to create and Open Data Portal. This portal is a publicly accessible portal that centralizes data collected by disparate city departments. This allows departments to access and analyze data more effectively, generates data-driven solutions, increases transparency and can even allow private developers to develop innovative ways of handling municipal problems.

PSAP CONSOLIDATION

Indiana law requires the consolidation of Public Safety Answering Point (PSAP) centers to no more than two locations per county by the end of 2014. Currently St. Joseph County, Mishawaka, Clay Fire and South Bend all have PSAP locations, necessitating immediate consolidation.

ERP REPLACEMENT

The current Naviline ERP System must be upgraded or replaced. The importance of this system as well as the challenges of replacing it cannot be understated. The City of South Bend must fully commit to this project. This project will require the most proficient staff from many key departments to be fully immersed on this project for many months or years to help complete the replacement. Although replacing the ERP system is a giant and risky endeavor, the outcome will provide additional capabilities that the city desperately needs.

In order to replace the ERP system, a needs assessment must first be conducted to analyze which system will more closely meet our current and future needs. At this juncture, the next ERP System must offer more robust user reporting, mobile access, an SQL database backend, and a more intuitive user interface. Information Technologies has included funding for the needs assessment in the 2014 proposed budget. Implementation of the new system would begin in early 2015 with a 2-4 year implementation schedule depending on many factors including the vendor and product selected.

APPENDIX C – POTENTIAL PROJECT DESCRIPTIONS

BUSINESS CONTINUITY

The creation of a Business Continuity and Disaster Recovery Plan is needed to ensure mission critical systems are protected at the highest reasonable level and that they can be restored as quickly as possible in the event of a disaster. First, mission critical systems must be identified. After combining many essential technologies and locations to better protect them, the Information Technologies Department will also develop a recovery plan that outlines processes to restore mission critical systems in the event of a disaster.

NETWORK ASSESSMENT

As the City constantly demands more of its network, the Information Technologies Department must assess the current capacity of networking infrastructure and plan for the future. An examination of the network must confirm that the current infrastructure has the capacity to fulfill current needs but is also robust and flexible enough to deliver services in the future. Some of these steps include closing fiber loops for redundancy, improving the backbone of the network to 10GB to assure available bandwidth, increasing internet connection speeds, reviewing the network hardware and infrastructure for capacity, and completing a security audit. This examination will ensure our network and systems can withstand the burden of our current needs and remain flexible enough to accommodate tomorrow's demands.

GIS STRATEGIC IMPLEMENTATION

An enterprise level GIS Strategic Implementation will address many issues including governance, database design, data integrity, data maintenance, software, training and infrastructure. Strategically investing in our current GIS environment will give decision makers access to more complete data.

BUSINESS INTELLIGENCE SOFTWARE

Business intelligence tools are designed to retrieve, analyze and report data for business intelligence. An enterprise level tool of this nature will help decisions within the City of South Bend become more based upon a data-driven decision model.

INTEGRATION POINTS WITH ST. JOSEPH COUNTY

The City of South Bend and St. Joseph County duplicate many processes, creating inefficiencies and wasted resources. Establishing integrated systems with St. Joseph County will help several departments be more efficient. Ideally, the City of South Bend and St. Joseph County can integrate data collection and freely share data. This will enable the City to access warrant information, property ownership

records, assessed valuations, zoning information, commissioner sales, tax sale information and other data.

MOBILE FIELD CONNECTIVITY

Increasingly, departments need to access internal resources while in the field. As mobile access is created, the city must continue to secure private data while making access intuitive and efficient. Resolving this challenge will increase efficiencies in all departments where considerable time is spent in the field.